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30500 NORTHWESTERN HWY				
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FARMINGTON HILLS, MI 48334			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/505,241	LIN, CHIU-TSU	
	Examiner	Art Unit	
	Peter F. Godenschwager	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 20 August 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) 9 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/3/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 9 cites dependence from claim 11, however, it appears as though claim 9 was intended to cite dependency from claim 8. For purposes of further examination claim 9 will be interpreted as citing dependency from claim 8.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 5, 7, 8, and 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is

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(a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 4 recites the broad recitation 60-70% by weight, and the claim also recites 61-63% by weight which is the narrower statement of the range/limitation. Claim 5 recites the broad recitation 15-25% by weight, and the claim also recites 20-23% by weight which is the narrower statement of the range/limitation. Claim 8 recites the broad recitation 10-20% by weight, and the claim also recites 15-17% by weight which is the narrower statement of the range/limitation. Claim 10 recites the broad recitation 0.4-5% by weight, and the claim also recites 1.5-2.5% by weight which is the narrower statement of the range/limitation. Claim 13 recites the broad recitation 0.1-1.0% by weight, and the claim also recites 0.3-0.5% by weight which is the narrower statement of the range/limitation. For the purposes of further examination, the claims will be interpreted as claiming the broadest range in each claim.

Claims 6, 9, 12, 14, and 16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims use the phrase "consisting essentially of" to define the group from which the ingredient is selected. However, "consisting essentially of" does not define a closed group. For the purposes of further examination, the phrase "consisting essentially of" in claims 6, 9, 12, 14, and 16 will be interpreted as meaning "consisting of".

Claims 7, 14, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 7, 14, and 16, the phrase "other similar compounds" and "other similar agents" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "other similar compounds" and "other similar agents"), thereby rendering the scope of the claim(s) unascertainable. For the purposes of further examination, the phrase "other similar compounds" or "other similar agents" has not been considered part of the claim(s).

Claims 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "trace" in claim 15 is a relative term which renders the claim indefinite. The term "trace" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For purposes of further examination, the phrase "trace amounts" will be interpreted as any amount.

Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention. It is not clear whether the phrase "...the metal alloys and galvanized steel" refers to limitations that lack proper antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless.—

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Purnell et al. (US Pat. No. 5,451,431).

Regarding Claim 1: Purnell et al. teaches a non-chromate (chrome-free) coating composition (abstract). The term "environmentally friendly" of instant claim 1 is being interpreted as being free of chromium.

Regarding Claim 17: Purnell et al. further teaches the composition of claim 1 coated on a zinc-aluminium (alloy) coated steel (Example 11).

Regarding Claim 18: Claim 18 is directed toward a composition as set forth in claim 1. The term "anti-corrosion coating" has been considered but given little patentable weight as it is directed toward the function of the material not its composition.

Regarding Claim 19: Claim 19 is directed toward a composition as set forth in claim 1.

The term "anti-fingerprint coating" has been considered but given little patentable as it is directed toward the function of the material not its composition.

Regarding Claim 20: Purnell et al. further teaches that the coating has adhesive characteristics (4:15-20).

Regarding Claim 21: Claim 21 is directed toward a composition. The intended use of the composition, "coating to the subsequent liquid and powder paints", has been considered but given little patentable weight as it does not change the composition.

Regarding Claim 22: Purnell et al. teach galvanized steel and galvalume coated with the composition of claim 1 (Examples 8 and 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4 and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purnell et al. (US Pat. No. 5,451,431) in view of Palm et al. (US Pat. No. 3,578,510) and in further view of Sakagami et al. (US Pat. No. 5,306,759).

Regarding Claims 2, 8 and 9: Purnell et al. teaches the composition of claim 1 as set forth above. Furthermore, Purnell et al. teaches the composition of claim 1 further comprising water (aqueous solution) (abstract), organofunctional silanes (abstract), and a chrome-free corrosion inhibitor (silicate) (abstract).

Purnell et al. does not teach the composition further comprising a hazardous air-pollutant-free co-solvent.

However, Palm et al. teaches an aqueous coating composition for metals that comprises from about 0.25 to about 10 percent of the butyl ether of propylene glycol (PnB) which overlaps the range claimed in 8 (3:54-70). Purnell et al. and Palm et al. are combinable because they are concerned with the same field of endeavor, namely surface coatings of metals. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the PnB taught by Palm et al. in the composition of Purnell et al. and would have been motivated to do so because Palm et al. teaches that the PnB augments the cleaning of the surface and assists in achieving a uniform coating on the surface (3:54-59).

Purnell et al. does not teach the composition further comprising a metal chelating agent.

However, Sakagami et al. teaches the use of a metal chelating agent in a surface coating for metals (abstract, 1:5-15, 6:15-25). Purnell et al. and Sakagami et al. are combinable because they are concerned with the same field of endeavor, namely coatings for metal surfaces. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the metal chelates taught by Sakagami et al. in the composition of Purnell et al. and would have been motivated to do so because Sakamagie et al. teach that the metal chelate compounds promote the condensation of the resin and organosilane (component a) (6:15-25).

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Regarding Claim 4: Purnell et al. does not teach an amount of water present in the aqueous coating compositing. However, Official notice is taken that it is well known in the art to change the relative amounts of result effective variables such as the amount of water present in the composition. At the time of the invention, a person of ordinary skill in the art would have found it obvious to change the relative amount of water present in the composition and would have been motivated to do so to optimize the coating ability of the composition (See MPEP 2144.05 II).

Regarding Claims 10-12: Purnell et al. further teach the composition of claim 2 where the organofunctional silanes are present from 1.0% to 2.5% of the solution (3:20-22) and are functionalized with amino groups (sterically hindered substituents) (2:68-3:2).

Regarding Claims 13-14: Purnell et al. further teach the composition of claim 2 where the corrosion inhibitor is a silicate and present in an amount of 0.5% to 1.2% (3:20-25).

Claims 3 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purnell et al. (US Pat. No. 5,451,431) in view of Palm et al. (US Pat. No. 3,578,510) and Sakagami et al. (US Pat. No. 5,306,759) as applied to claim 2 above, and further in view of Murao et al. (US Pat. No. 4,826,907).

Purnell et al. does not teach the composition of claim 2 further comprising a pH adjusting agent. However, Murao et al. teaches a coating composition comprising a pH adjusting agent, specifically ammonia (10:28-35 and 11:64-12:2), Purnell et al. and Murao et al. are combinable because they are concerned with the same field of endeavor, namely coating compositions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have

used the ammonia taught by Murao et al. in the composition of Purnell et al. and would have been motivated to do so because the pH is well known to affect the corrosion of a metal.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purnell et al. (US Pat. No. 5,451,431) in view of Palm et al. (US Pat. No. 3,578,510) and Sakagami et al. (US Pat. No. 5,306,759) as applied to claim 2 above, and further in view of Sako et al. (WO 01/48264).

Purnell et al. does not teach the composition where the resin is present from 15-25% by weight, is micro or nano sized, and chosen from an acrylic emulsion, polyurethane emulsion, or a co-polymer emulsion.

However, Sako et al. teaches a coating composition that comprises an acrylic resin that can be emulsified in an amount of at least 20% (Pg. 11 lns. 25-33, Pg. 12 lns. 4-5, and Pg. 14 lns. 10-11). While Sako et al. is silent on the size of the emulsion, Official notice is taken that it is well known in the art that the size of emulsions in aqueous solutions are nano or micro sized. Purnell et al. and Sako et al. are combinable because they are concerned with the same field of endeavor, namely metal coatings. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the emulsions taught by Sako et al. in the composition of Purnell et al. and would have been motivated to do so because Sako et al. teach that they heighten the corrosion resistance, fingerprint resistance and workability (Pg. 7 lns. 7-10).

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached form PTO-892.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter F. Godenschwager whose telephone number is (571) 270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFG
September 14, 2007


MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER

14/Sep/07